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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,850	07/03/2003	John W. Robinson	BFGRP0313USB	6883

53428 7590 01/18/2006

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EXAMINER

SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/612,850	ROBINSON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Robert Sellers	1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 13-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/3/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

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Claims 13-15 and 17-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Claim 18 has been withdrawn due to its dependence upon claim 15 which is in non-elected Group III according to the restriction and election of species requirement mailed July 6, 2005 (page 2). The election was made **without** traverse in the reply filed on August 8, 2005. Claim 7 and 16 are withdrawn as being directed to a non-elected species of reactive liquid polymer b).

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6 and 8-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

1. An epoxy resin is any polymer or resin containing at least two epoxy groups per molecule with the capability of curing. The epoxides such as the octadecyleneoxide, epichlorohydrin, styrene oxide, vinylcyclohexene oxide and glycidyl methacrylate listed on page 6, line 30 to page 7, line 1 are compounds containing only a single epoxy group which do not conform the art-recognized definition of a resin.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

2. Claim 12 does not further limit claim 10 wherefrom it depends since both claims require a diglycidyl ether of a bisphenol compound.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1, 2, 4-6 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Minamisawa et al. Patent No. 4,500,660.

3. Minamisawa et al. (col. 7, Example 1) shows a composition comprising a diglycidyl ether of bisphenol A within the elected species of a diglycidyl ether of a bisphenol, the elected species of the reaction product of a diglycidyl ether of bisphenol A and a carboxyl-terminated butadiene-acrylonitrile copolymer (CTBN), and Nipol 1072 nitrile rubber which is a carboxyl-modified butadiene-acrylonitrile copolymer according to column 4, lines 51-61).

Claims 1-3 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent No. 3-137179 in view of Tzeng Patent No. 4,678,716.

4. Japanese '179 shows a formulation prepared from a bisphenol A epoxy resin, a CTBN-modified bisphenol A epoxy resin and a Versamide 125 polyaminoamide (Derwent and CAPLUS abstracts). Tzeng (col. 8, line 44) confirms the liquid state of Versamide 125. According to MPEP § 2131.01, "a 35 U.S.C. 102 rejection over multiple references has been held to be proper when the extra references are cited to: . . .

(C) Show that a characteristic not disclosed in the reference is inherent."

5. The claimed reactive liquid polymer b) denotes any liquid polymer with reactive groups, thereby encompassing the liquid amino-functional polyamide of the reference.

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Claims 1-3 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Siebert et al. Patent No. 5,280,068 in view of the Stochem technical bulletin.

6. Siebert et al. (col. 38, Example 32) shows a combination of a diglycidyl ether of bisphenol A, a statistical monofunctional carboxyl, amine or epoxy-terminated reactive liquid polymer such as an epoxy-terminated reactive polymer, and Ancamide 501.

The Stochem technical bulletin establishes Ancamide 501 as a polyamidoamine liquid as indicated by the viscosity of 600 cps.

7. The claimed reactive liquid polymer b) denotes any liquid polymer with reactive groups, thereby encompassing the liquid amino-functional polyamide of Siebert et al.

8. More favorable consideration would be given with respect to Japanese '179 and Siebert et al. if reactive liquid polymer b) is limited to the carboxyl-, hydroxyl- or epoxy-terminated polymer of claim 4.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-5 and 8-12 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakata et al. Patent

No. 4,804,710 or Japanese Patent No. 4-145185 or Schenkel Patent No. 6,776,869.

9. Nakata et al. sets forth a fiber-reinforced plastic (col. 1, lines 18-23, FRP) impregnated with a liquid mixture of an epoxy resin such as the diglycidyl ether of bisphenol A (col. 4, Table 1, Examples 1-3, Epikote 828), a liquid reaction product of the diglycidyl ether of bisphenol A and a carboxyl-terminated butadiene-acrylonitrile copolymer, and a urethane-modified epoxy resin. Due to its application to an FRP plate and squeezing out characteristic (col. 4, lines 21-22 and 25-26), the components including the urethane-modified epoxy resin are liquids.

10. Japanese '185 (abstracts) reports a formulation prepared by stirring (CAPLUS abstract, AB, line 9) a blend of a bisphenol F epoxy resin, a liquid reaction product of a bisphenol epoxy resin and a carboxylated butadiene acrylonitrile rubber, and a urethane-modified epoxy resin. The use of the blend as an adhesive sandwiched between steel plates indicates its application as liquid wherein the components including the urethane-modified epoxy resin are liquids.

11. The claimed reactive liquid polymer b) embraces the liquid urethane-modified epoxy resins of Nakata et al. or Japanese '185 since such resins contain terminal reactive epoxy groups.

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Claims 1-3 and 8-12 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schenkel Patent No. 6,776,869.

12. Schenkel (col. 9, Example 1 and Table 2, Examples 2 and 3) espouses a formulation utilized as liquid highly viscous adhesives (col. 7, lines 47) comprising a diglycidyl ether of bisphenol A, a liquid reaction product of the diglycidyl ether of bisphenol A and CTBN, and a phenolic- or amino-terminated polyurethane prepolymer

13. The presence of phenolic or amino reactive groups in the polyurethane prepolymer of Schenkel conforms to the claimed reactive liquid polymer b).

14. Although the urethane-modified epoxy resins of Nakata et al. and Japanese '185 and the phenolic- or amino-terminated polyurethane prepolymer of Schenkel are not individually designated as a liquid, their use in liquid compositions without solvents inherently establishes their liquid form. The burden of proof rests with applicants to rebut the inherent liquid state of these resins or prepolymers

(*In re Fitzgerald*, 205 USPQ 594, CCPA 1980 and MPEP §§ 2112-2112.02).

Claims 1-6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 64- 01-060679.

15. Japanese '679 is drawn to a formulation obtained from at least one epoxy resin including a bisphenol A epoxy resin and a reaction product of an epoxy resin and a carboxyl-terminated butadiene-acrylonitrile copolymer, and a carboxyl-containing acrylonitrile copolymer.



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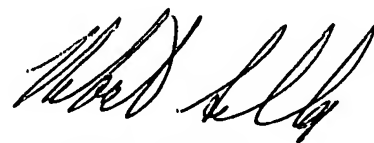
16. It would have been obvious to employ a blend of a bisphenol A epoxy resin and an epoxy resin-CTBN reaction product since Japanese '679 is open to mixtures of epoxy resins in order to enhance the toughness which is an inherent feature of CTBN. Furthermore, "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose . . . [T]he idea of combining them flows logically from their having been individually taught in the prior art"

(MPEP § 2144.06, Combining Equivalents Known for the Same Purpose and

*In re Kerkhoven*, 205 USPQ 1069, 1072, CCPA 1980).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



Robert Sellers  
Primary Examiner  
Art Unit 1712